Case 2677

Saissetia Déplanche, 1859 (Insecta, Homoptera): proposed designation of *Lecanium coffeae* Walker, 1852 as the type species

Yair Ben-Dov

Department of Entomology, Agricultural Research Organisation, The Volcani Center, Bet Dagan 50 250, Israel

Abstract. The purpose of this application is the conservation of the accepted interpretation of *Saissetia* Déplanche, 1859 as a genus of soft scale insects (COCCIDAE), with some species of economic importance. *Lecanium coffeae* Walker, 1852 is commonly taken to be the type species, but the genus was originally based on *Saissetia coffeae* Déplanche, 1859. The description of Déplanche's *coffeae* shows that it was a mealybug (PSEUDOCOCCIDAE), but the species cannot now be identified and the suppression of its name is proposed.

---

1. Déplanche (1859, pp. 6–7) described the genus *Saissetia* for one new species, *Saissetia coffeae*. The description was given in an article on coffee diseases in Tahiti, which was published in the *Messager de Tahiti*, a weekly newspaper issued in Papeete, Tahiti. In this article Déplanche presented accounts of: the damage caused by the insects in a coffee plantation in Faaa, Tahiti; the distinct difference between the coffee coccoid and a different species on guava; the general appearance of an infested coffee tree; descriptions of the female and the male of *S. coffeae* on coffee; description of the female during oviposition; development of the egg and the embryo; and a general discussion on the pest and its control.

2. Because of the unavailability of the *Messager de Tahiti* in scientific libraries, several parts from the description which are relevant to the present request are cited here: '. . . Ainsi le coccinien du caféier n'est pas le même que le coccinien du Gouyavier, . . . Nous nous bornerons donc pour le moment à la description du coccinien du caféier; nous examinerons son mode de développement, ses ravages, . . . Les femelles, se caractèrisent par un corps peu épais, aplati, mou, du forme ovalaire; par des antennes composées de neuf articles, et par des tarses n'en ayant qu'un seul. Le corps présente des anneaux bien distincts, terminés de deux en deux par des espèces de languettes qui vont en diminuant de longueur de l'arrière à l'avant. A côté des deux postérieures, inégales et les plus longues, et un peu en dehors, sont deux soies noires, allongées, terminées en pointe. Tout le corps sécrète une matiére blanche, cotonneuse qui le recouvre entièrement. . . . La bouche, est formée de labre epais et munie de quatre soies assez longues, . . . A l'époque de la fécondation, le corps des femelles sécrète la matière cotonneuse en plus grande abondance; . . . Parmi de nombreux caractères semblables à ceux que l'on rencontre chez des insectes de la même tribu, nous en voyons d'autres qui en diffèrent trop essentiellement pour ne pas former un genre nouveau de l'espèce qui nous occupe. Nous proposons donc, pour le Coccinien du Caféier, de Genre SAISSETIA; (S. coffeae) du nom du Gouverneur actuel des Etablissements Français de l'Océanie.'

3. The description, being remarkably detailed for its time, presents several distinct characters which show that *Saissetia coffeae* Déplanche, 1859 was not a soft scale insect (COCCIDAE), but rather represented a species, which cannot now be identified with confidence, in the mealybug family (PSEUDOCOCCIDAE).

4. Eudes-Deslongchamps (1859, pp. 203–207) published an account of Déplanche's original paper, summarising the description and including the name *Saissetia coffeae*, in the *Bulletin de la Société Linnéenne de Normandie*.

5. Fauvel (1865) published a note (9 lines long) in which he stated that '. . . l'espèce de Coccinien décrite par M. Emile Déplanches [sic] . . . sous le nom de *Saissetia coffeae*, Dépl., n'est autre que le *Leucanium* [sic] *coffeae* . . .'. Fauvel, a member of the Société Linnéenne de Normandie, was a general biologist but not a scale insect student. There is no indication in the note that he had examined Déplanche's material, and it is very likely that he introduced this erroneous synonymy because of the identical specific names: *S. coffeae* Déplanche, 1859 and *Lecanium coffeae* Walker, 1852 (p. 1079). This erroneous synonymy, of a mealybug species with that of a soft scale insect, was the origin of the confusion in the genera discussed in this request.

6. The name *Saissetia* was not used in scale insect studies from the date of its description until the end of the 19th century. For example it was not mentioned in the comprehensive works of Targioni Tozzetti (1868) and Signoret (1877). The fact that *Saissetia* was not listed in the Signoret Catalogue (1877) is a clear indication that the Déplanche publication was unknown or not available to Signoret. Eudes-Deslongchamps' (1859) report was perhaps overlooked because it was not published with a clear title but formed part of the report of a meeting.

7. Ancey (1888) proposed *Saissetia* as a replacement name for his genus *Platystoma* (1882; a junior homonym) in the Mollusca. Pilsbry (1894, p. 342) reported a note from T. D. A. Cockerell that *Saissetia* was preoccupied in Entomology, and therefore introduced *Platyrhitida* Pilsbry, 1894 as a replacement name for *Saissetia* Ancey.

8. Cockerell appears to be the first author to have reintroduced the name *Saissetia* into scale insect nomenclature. By including it in a key for genera related to *Lecanium* (Cockerell & Parrott, 1899) he established its interpretation as a genus in the COCCIDAE. Later (Cockerell, 1901) he regarded it as a valid genus, placed eight species in it and compared it with his newly described subgenera *Platysaissetia* and *Megasaissetia*.

9. *Saissetia*, erroneously credited to Fauvel, was noted in the *Zoological Records* (1903) in a footnote on p. 350: '*Saissetia* Fauvel, *Bull. Soc. Normand.* 9 (1865), genus not previously recorded.'

10. Following Cockerell (1899, 1901), 20 species, the majority of which had been previously described or placed in *Lecanium*, were assigned to *Saissetia* in the Fernald Catalogue (1903). The type-species was given as '*coffeae* [Walker, 1852] = *hemisphaericum* [Targioni Tozzetti, 1868]' while the genus was credited to Fauvel (1865). It should be pointed out that *S. coffeae* Déplanche was not mentioned in this Catalogue, not listed among the synonyms of *S. hemisphaerica*, nor among the 'Species without descriptions or not recognisable'.

11. Ashmead (1891) introduced the genus *Bernardia* in the tribe LECANIINI of the COCCIDAE, but failed to assign to it any species. Subsequently, *Lecanium oleae* Bernard (correctly *Coccus oleae* Olivier, 1791, p. 95) was designated the type-species of *Bernardia* (see Marlatt, 1891, p. 150). Cockerell (1892) noted that the latter name was preoccupied in botany, and suggested the replacement name *Neobernardia*. If *Saissetia*

were excluded from the COCCIDAE *Bernardia* (which has never been used) might be resurrected as its junior subjective synonym, but I do not propose this.

12. De Lotto (1965, p. 219) presented, for the first time, clear indications that the original publication by Déplanche (1859) was neither seen by earlier workers, nor by himself, and that *Saissetia coffeae* Déplanche, 1859 must have been a mealybug (PSEUDOCOCCIDAE) and not a soft scale insect (COCCIDAE).

13. Morrison & Morrison's (1966) reference to *Saissetia* basically concurred with the findings of De Lotto (1965), and clearly objected to any attempt to remove the name *Saissetia* from the COCCIDAE.

14. De Lotto (1970) examined the original publication by Déplanche (1859) and confirmed the availability of the names *Saissetia* Déplanche, 1859 and *S. coffeae* Déplanche, 1859. However, as stated in paras. 1–5 above, the original taxonomic position was different from that subsequently assumed.

15. Since 1899 to the present *Saissetia* has been widely accepted and extensively used as a genus in the COCCIDAE, but has never been applied to a mealybug (PSEUDOCOCCIDAE). This fact is well demonstrated in the following list of number of species: Fernald (1903) — world, 20; Dietz & Morrison (1916) — U.S.A. (Indiana), 2; Leonardi (1920) — Italy, 2; Balachowsky (1932) — Mediterranean, 2; Gomez-Menor (1937) — Spain, 3; Zimmerman (1948) — Hawaii, 3; Borchsenius (1957) — U.S.S.R., 3; De Lotto (1965) — Southern Africa, 12; Beardsley (1966) — Micronesia, 3; Hodgson (1969) — Zimbabwe, 12; Williams & Kosztarab (1972) — U.S.A. (Virginia), 3; Kawai (1980) — Japan, 3; Yang (1982) — China, 6; Ben-Dov (1971, 1985) — Israel, 4; Kozar & Walter (1985) — Palaearctic region, 6.

16. Based on the Fernald Catalogue (1903) and on the *Zoological Records*, I estimate that by 1986 some 50 species of soft scale insects had been described in or assigned to *Saissetia*.

17. Some species of *Saissetia* are pests of great economic importance, e.g. the Mediterranean black scale, *S. oleae* (Olivier) and the hemispherical scale, *S. coffeae* (Walker). These names have been, and are, used in all works dealing with the biology and control of the species (see Clausen, 1978).

18. As discussed above, the generic name *Saissetia* is widely used in publications on both systematics and applied studies of scale insects. It is always ascribed to Déplanche (1859), but placed in the COCCIDAE, with *Lecanium coffeae* Walker wrongly taken to be its nominal type species. I consider that stability would best be served by ratifying current practice, particularly since Déplanche's species *coffeae*, although plainly different from Walker's, cannot now be identified. Because the species evidently belong to different families I do not propose designating a specimen of *coffeae* Walker as neotype of *coffeae* Déplanche.

19. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers:
   (a) to suppress the specific name *coffeae* Déplanche, 1859, as published in the binomen *Saissetia coffeae*, for the purposes of both the Principle of Priority and the Principle of Homonymy;
   (b) to set aside all previous designations of type species for the nominal genus *Saissetia* Déplanche, 1859, and to designate *Lecanium coffeae* Walker, 1852 as the type species;

(2) to place on the Official List of Generic Names in Zoology the name *Saissetia* Déplanche, 1859 (gender: feminine), type species by designation in (1)(b) above *Lecanium coffeae* Walker, 1852;
(3) to place on the Official List of Specific Names in Zoology the name *coffeae* Walker, 1852, as published in the binomen *Lecanium coffeae* (specific name of the type species of *Saissetia* Déplanche, 1859);
(4) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *coffeae* Déplanche, 1859, as published in the binomen *Saissetia coffeae* and as suppressed in (1)(a) above.

Acknowledgement

I wish to thank Mme Danièle Matile-Ferrero, Muséum National d'Histoire Naturelle, Paris, who enabled me to obtain a copy of Déplanche (1859), and Dr P. K. Tubbs, Secretary, ICZN, for his constructive comments while preparing this request.

References

Ancey, M. C. F. 1888. Nouvelles contributions malacologiques. *Bulletin de la Société Malacologique de France*, **5**: 341–376.

Ashmead, W. H. 1891. A generic synopsis of the Coccidae. Family X.–Coccidae. *Transactions of the Entomological Society of America*, **18**: 92–102.

Balachowsky, A. 1932. *Étude biologique des coccides du bassin occidental de la Méditerranée*. 214 pp. Lechevalier & Fils, Paris.

Beardsley, J. W. 1966. Insects of Micronesia. Homoptera: Coccoidea. *Insects of Micronesia*, **6**: 373–562.

Ben-Dov, Y. 1971. An annotated list of the soft scale insects (Homoptera: Coccidae) of Israel. *Israel Journal of Entomology*, **6**: 23–34.

Ben-Dov, Y. 1985. Further observations on scale insects (Homoptera: Coccoidea) of the Middle east. *Phytoparasitica*, **13**: 185–192.

Borchsenius, N. S. 1957. *Scale insects, family Coccidae. Fauna SSSR*, Vol. 9, (n.s. 66) [In Russian], 493 pp. Akademii Nauk SSSR, Moscow and Leningrad.

Clausen, C. P. 1978. Introduced parasites and predators of arthropod pests and weeds: a world review. *United States Department of Agriculture, Agriculture Handbook* No. 480, 551 pp.

Cockerell, T. D. A. 1892. List of Coccidae observed in Jamaica. *Insect Life*, **4**: 333–334.

Cockerell, T. D. A. 1901. The coccid genus *Saissetia*. *Entomological Student*, **2**: 31–33.

Cockerell, T. D. A. & Parrott, P. J. 1899. Contribution to the knowledge of the Coccidae. *The Industrialist*, **25**: 159–165, 227–237, 276–284.

De Lotto, G. 1965. On some Coccidae (Homoptera), chiefly from Africa. *Bulletin of the British Museum (Natural History)* (Entomology), **16**: 175–239.

De Lotto, G. 1970. On the status of two genera of soft scales (Homoptera: Coccoidea: Coccidae). *Bolletino del Laboratorio di Entomologia Agraria 'Filippo Silvestri' Portici*, **28**: 257–261.

Déplanche, E. 1859. Maladie du caféier. *Messager de Tahiti, Papeete*, **8** (no. 9): 6–7.

Dietz, H. F. & Morrison, H. 1916. The Coccidae or scale insects of Indiana. *Indiana State Entomologist Annual Report*, **8** (1914–1915): 195–321.

Eudes-Deslongchamps, J. A. 1859. [Analyse d'une mémoire sur une maladie du caféier, publiée à Tahiti par M. E. Déplanche]. *Bulletin de la Société Linnéenne de Normandie*, **4**: 203–207.

Fauvel, A. 1865. [Note que le nom de *Saissetia coffeae*, Dépl., n'est autre que la *Lecanium coffeae*]. *Bulletin de la Société Linnéenne de Normandie*, **9**: 126–127.

Fernald, M. E. 1903. A catalogue of the Coccidae of the world. *Bulletin of the Hatch Experiment Station, Massachusetts Agricultural College*, no. 88, 360 pp.

Gomez-Menor Ortega, J. 1937. *Coccidos de España*. 432 pp. Universidad de Madrid, Madrid.

Hodgson, C. J. 1969. Notes on Rhodesian Coccidae (Homopt. Coccoidea): Part III. *Arnoldia (Rhodesia)*, **4**: 1–45.

Kawai, S. 1980. *Scale insects of Japan in colours.* [In Japanese]. 455 pp. National Agricultural Education Association, Tokyo.

Kozar, F. & Walter, J. 1985. Check-list of the Palaearctic Coccoidea (Homoptera). *Folia Entomologica Hungarica,* **46**: 63–110.

Leonardi, G. 1920. *Monografia delle cocciniglie italiane.* 555 pp. E. Della Torre, Portici.

Marlatt, C. L. 1892. General notes. *Insect Life,* **4**: 148–153.

Morrison, H. & Morrison, E. R. 1966. An annotated list of generic names of the scale insects (Homoptera: Coccoidea). *Miscellaneous Publications U.S. Department of Agriculture,* no. 1015. 206 pp.

Olivier, A. G. 1791. *Encyclopédie méthodique.* Vol. 6. 704 pp. Paris.

Pilsbry, H. A. 1894. Additions and corrections, p. 342, *in* Tryon, G. W. & Pilsbry, H. A., *Manual of Conchology,* Second Series, Vol. IX. 366 pp. Academy of Natural Sciences, Philadelphia.

Signoret, V. 1877. Essai sur les cochenilles ou gallinsectes (Homoptères — Coccidea), 18e partie et dernière partie. *Annales de la Société Entomologique de France,* (5), **6**: 591–676.

Targioni Tozzetti, A. 1868. Introduzione alla seconda Memoria per gli studi sulle Cocciniglie, dei generi e delle specie della famiglia dei Coccidi. *Atti della Società Italiana di Scienze Naturali,* **11**: 694–738.

Walker, F. 1852. *List of the specimens of Homopterous Insects in the collection of the British Museum,* Part IV. 1188 pp. British Museum, London.

Williams, M. L. & Kosztarab, M. 1972. Morphology and systematics of the Coccidae of Virginia with notes on their biology (Homoptera: Coccoidea). *Virginia Polytechnic Institute and State University Research Division Bulletin,* no. 74. 215 pp.

Yang, P. L. 1982. *Synopsis of Chinese scale insects.* [In Chinese]. 425 pp. Shanghai Scientific and Technical Publications, Shanghai.

Zimmerman, E. C. 1948. *Insects of Hawaii.* 5. Homoptera: Sternorhyncha. 464 pp. University of Hawaii, Honolulu.